

**STS-100 (BI107)  
FLIGHT READINESS REVIEW  
PROGRAM**

**April 5, 2001**

**Solid Rocket Booster**

## AGENDA

Presenter:

Roger Elliott

Organization/Date:

USA-SRB/4-5-01

- Changes Since STS-102/BI106
- Readiness Assessment

# CLASS I CHANGES SINCE STS-102

Presenter:

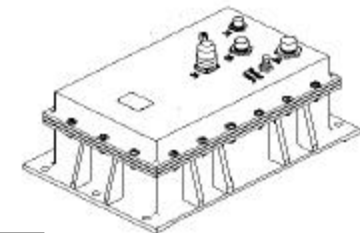
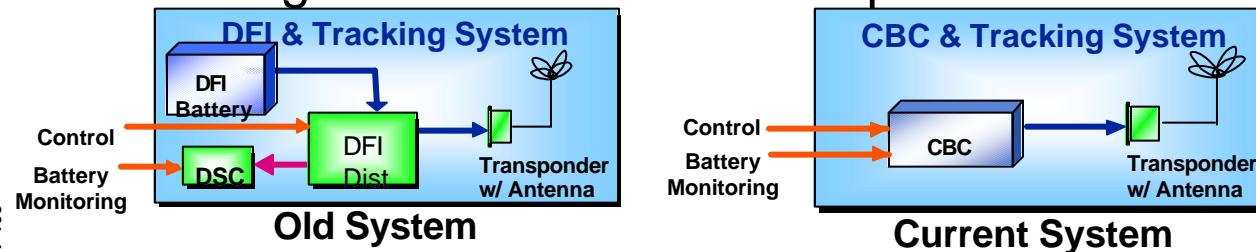
Roger Elliott

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## *First Flight of C-Band Controller (CBC)*

- CBC replaces Development Flight Instrumentation (DFI) utilized for power and instrumentation of C-Band transponder
  - Criticality 3 SRB Radar Beacon Tracking System
- CBC is self contained unit designed for multi-mission use and commanded by forward IEA
- CBC change implemented in conjunction with Sensor Timing Unit (STU) hardware deletion
  - STU function previously replaced by Seawater Activated Release (SWAR)
- Total weight reduction of 242 lbs. per SRB



CBC

*Basis for Certification: Test and Analysis*

STS-100/107-100

SRB-3

**CLASS I CHANGES SINCE STS-102**

Presenter:

Roger Elliott

Organization/Date:

USA-SRB/4-5-01

*Repairs LH Forward Skirt S/N 20022*

- Structure damaged at water impact on STS-37
- Repair procedure developed by USA SRB/MSFC team
- Post-repair inspections and NDE by USA SRB Element
- All stress analyses results exceed safety factor requirements
- Fracture Analysis Summary
  - All identified crack-like NDE indications evaluated
  - Risk assessment performed on inaccessible areas
  - All indications acceptable from fracture mechanics standpoint
  - Structure continues to meet life requirements
- MSFC Fracture Control Board reviewed and approved repair methods, NDE results and analysis
- Repair reviewed and approved by MSFC/USA Independent Assessment Review Team

STS-100/107-100

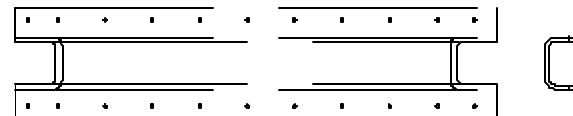
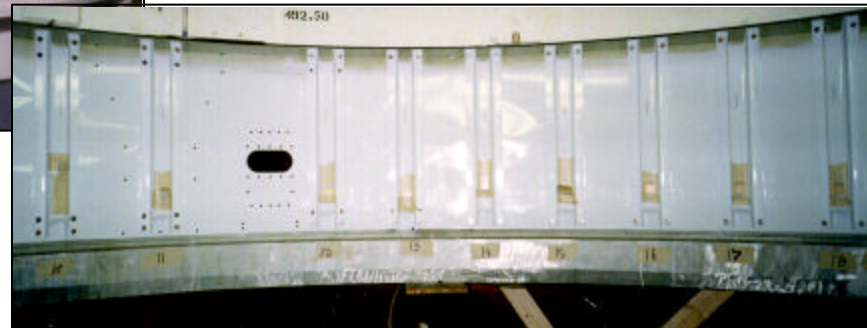
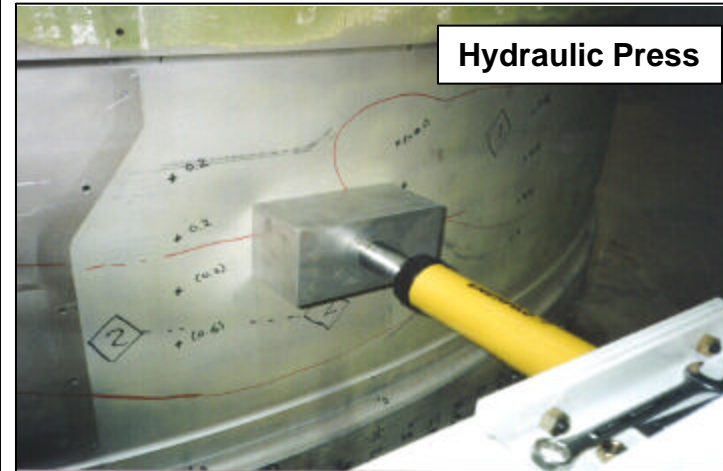
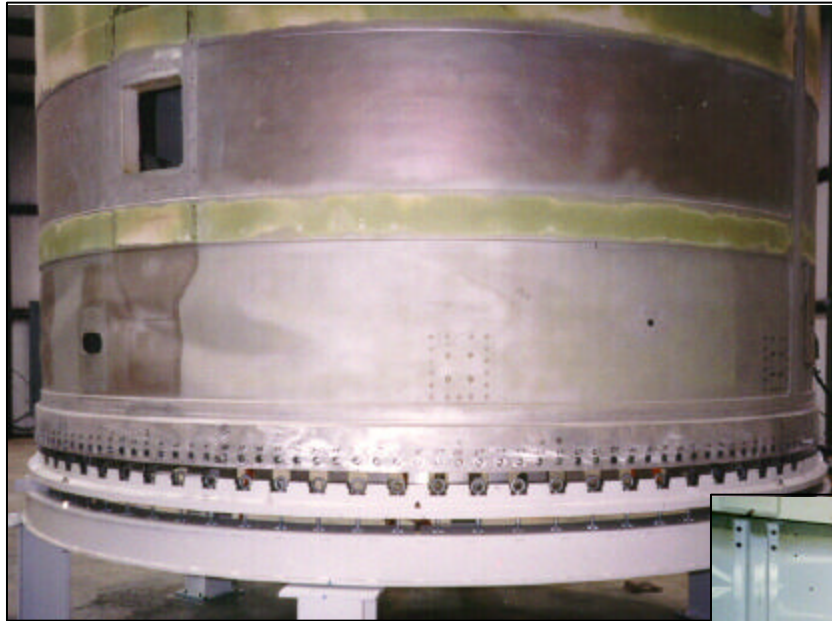
# CLASS I CHANGES SINCE STS-102

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Stringer Installation into Forward Skirt S/N 20022

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SRB-5

**CLASS I CHANGES SINCE STS-102**

Presenter:

Roger Elliott

Organization/Date:

USA-SRB/4-5-01

*Repairs LH Forward Skirt S/N 20022 (cont.)*

- Rationale for Flight
  - Structure repair analysis meets strength requirements of MSFC-HDBK-505
  - Structure fracture analysis meets safe-life requirements of MSFC-HDBK-1453 and 10CEI-0001
  - Risk assessment performed on all areas inaccessible to NDE and found acceptable

*Basis for Certification: Analysis*

## CLASS I CHANGES SINCE STS-102

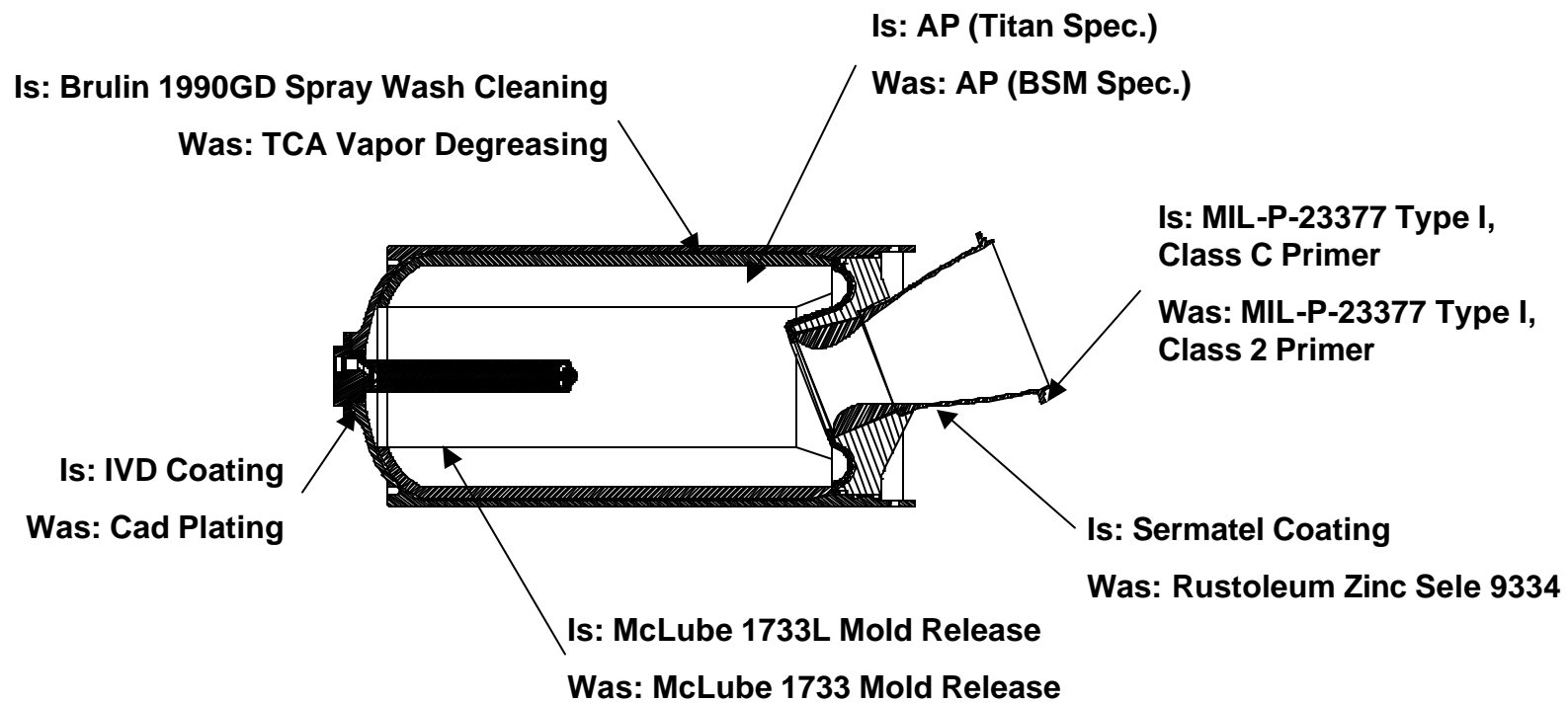
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- Adds environmentally friendly materials and new Ammonium Perchlorate (AP) feedstock for BSMs



STS-100/107-100

*Basis for Certification: Test*

SRB-7

# READINESS ASSESSMENT

Presenter:

Roger Elliott

Organization/Date:

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- Pending completion of open work, there are no constraints to launch for STS-100